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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,286	03/28/2001	Srinivas Gutta	US 010097	6878

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

LAYE, JADE O

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,286

Applicant(s)

GUTTA ET AL.

Examiner

Jade O. Laye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Information Disclosure Statement***

The information disclosure statements (IDS) submitted on 3/28/01 and 3/22/04 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the examiner.

Drawings

The drawings are objected to because:

- a. The borders of the charts in Figures 1-12 and the flowchart of Figure 14 are difficult to read. The background shading should be removed.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified

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and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 3-5, 8-12, 16-18, and 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Gutta. (US #6,727,914).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

As to claim 1, Gutta discloses a training system containing a processor and memory device, which utilizes positive examples (i.e., watched shows) and corresponding negative examples (i.e., not watched shows). (Col. 1, Ln. 1-34 & Col. 3, Ln. 27-52). Accordingly, each and every limitation of claim 1 has been anticipated by Gutta.

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As to claim 3, Gutta teaches his system can be content recommender. (Col. 2, Ln. 1-34). Thus, each and every limitation of claim 3 has been anticipated by Gutta.

Claims 11, 17, and 22 correspond to Claim 3. Accordingly, each is analyzed and rejected as previously discussed.

As to claim 4, Gutta teaches his system can be used in conjunction with television programming. (Col. 2, Ln. 1-34). Thus, each and every limitation of claim 4 has been anticipated by Gutta.

Claims 18, 12, and 23 correspond to claim 1. Accordingly, each is analyzed and rejected as previously discussed.

As to claim 5, Gutta further teaches that his examples can be described in accordance to features (i.e., genres, times, titles, etc.). (Col. 2, Ln. 12-16 & Fig. 2). It is inherent these features have a plurality of possible values. (the examiner interprets this limitation to refer to the system containing multiple genres, times, titles, etc. This is inherent in many well-known Electronic Programming Guides). Gutta further teaches the positive and negative examples can contain subsets divided by the same genres. (Col. 2, Ln. 1-34 & Col. 3, Ln. 38-59 & Fig. 2). Accordingly, each and every limitation of claim 5 has been anticipated by Gutta.

Claims 10 and 16 correspond to claim 5. Each is analyzed and rejected as previously discussed.

As to claim 8, Gutta teaches his system is capable of recommending programs based upon time of day. (Col. 2, Ln. 1-34). Accordingly, each and every limitation of claim 8 has been anticipated by Gutta.

Claim 20 corresponds to claim 8. Each is analyzed and rejected as previously discussed.

As to claim 9, Gutta's system is a content recommender utilizing a decision tree-learning algorithm (i.e., artificial intelligence application), which recommends viewing content (i.e., useful application) via an analysis of positive and negative examples. (Col. 2, Ln. 1-34). Accordingly, each and every limitation of claim 9 has been anticipated by Gutta.

As to claim 21, Gutta teaches his system is capable of storing negative examples based upon the time of day. If a given program (that's not watched or i.e., negative example) is only shown once over a given time period selected as a training feature, this program could never appear twice. Accordingly, each and every limitation of claim 21 is anticipated by Gutta.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gutta in view of Alexander et al. (US #6,177,931).

Applicant's claim 2 recites the processing apparatus of claim 1, wherein the set of negative examples has a same number of members as the set of positive examples. As discussed above, Gutta contains all limitations of claim 1, but fails to specifically specify whether the system analyzes exact numbers in each set. However, within the same field of endeavor, Alexander discloses a system, which records the viewer's actions, such as changing channels. The system records information on the first channel and the changed-to-channel. (Col. 28, Ln. 30-52). In essence, the first channel is a not watched channel, or negative example, while the changed-to-channel is a watched channel, or positive example. In many instances, the first and changed-to-channels represent a one-to-one ratio, or in other words, the system would store one first channel, which corresponds to one changed-to-channel. In this instance, the system would store the same number of

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negative and positive examples, thus encompassing claim 2. Therefore, it would have been obvious to one ordinarily skilled in this art at the time of applicant's invention to combine the content recommender of Gutta with the system of Alexander et al in order to provide an alternative learning algorithm.

(note: in the alternative, having an exact number of positive and negative examples would have been an obvious variant to the combined Gutta/Alexander et al system. Since the combined system stores corresponding examples, it is likely that in some instances, the numbers of examples would be the same.)

3. Claim 6, 7, 13-15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gutta in view of Bedard. (US #5,801,747).

Applicant's claim 6 recites the apparatus of claim 5, wherein the set of negative examples includes at least one second subset of negative examples, the members of the second subset of negative examples being selected to have a value of the given feature that lies within a predetermined range of the same value, but excluding the respective value. As discussed above, Gutta contains all limitations of claim 5, but fails to specifically disclose the limitations of claim 6. However, within the same field of endeavor, Bedard discloses a content recommender, which contains subsets corresponding to various genres (i.e., features). (Col. 4, Ln. 49-65). Accordingly, it would have been obvious to one of ordinary skill in this art at the time applicant's invention to combine the system of Gutta with the system of Bedard in order to provide the system with a more detailed programming database of which to recommend programs.

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Claim 13 corresponds to claim 6 and is analyzed and rejected as previously discussed.

Claim 7 recites the apparatus of claim 6, wherein no negative example appears twice in the set of negative examples. As discussed above, the combined teachings of Gutta and Bedard contain all limitations of claim 6, but fail to specifically recite the limitations of claim 7. However, as discussed earlier, Gutta's system is capable of storing negative examples based upon the time of day. If a given program (that's not watched or i.e., negative example) is only shown once over a given time period selected as a training feature, this program could never appear twice. Therefore, the combined teachings of Gutta and Bedard encompass the limitation of claim 7 as well.

Claim 14 and 19 correspond to claim 7. Accordingly, each is analyzed and rejected as previously discuss.

Applicant's claim 15 recites the apparatus of claim 13, wherein the given feature is the time of day. As discussed above, Gutta and Bedard contain all limitations of claim 13, and Gutta further teaches his system is capable of recommending programs based upon time of day. (Col. 2, Ln. 1-34). Accordingly, the combined teachings of Gutta and Bedard contain the limitations of claim 15.

4. Claims 24, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexander in view Hertz et al. (US #5,758,257).

Applicant's claim 24 recites an apparatus adapted to implement an artificial intelligence application, whose application requires the use of negative and positive examples being describable in accordance with at least one feature having a plurality of possible values, the apparatus comprising:

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- a. at least one memory adapted to store data and/or instructions
- b. at least one processor adapted to execute the following operations, using the at least one memory:
 - 1. recognizing and maintaining a set of positive examples for training, and at least one subset of examples sharing the same value of a given feature, the feature being determined in advance
 - 2. and, selecting a set of negative examples, including at least one subset sharing a value of given feature that is approximately adjacent to same respective value.

As discussed above under Paragraph 2, Alexander discloses a content recommender in which the system records changed-from-channels and changed-to-channels, or i.e., negative and positive examples respectively. (Col. 28, Ln. 30-44). The system is further capable of analyzing subcategories of genres. (Col. 29, Ln. 31-55). The use of a processor and accompanying memory is inherent in Alexander's system. But Alexander fails to specifically disclose whether the subset of negative examples can have values of a given feature that are approximately adjacent to the same respective value. However, within the same field of endeavor, Hertz discloses a content recommender in which the system builds subsets based upon the *degree* of correlation between the learned user preferences and the programming content. (Col. 4, Ln. 18-31 & Col. 6, Ln. 3-13). The use of the word "degree" here implies the correlation is not always exact, but that it can also be approximate. In essence, the system is capable of selecting subsets of examples with values approximately adjacent the user's preference. Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's

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invention to combine the system of Alexander with the system of Hertz et al in order to provide a content recommender with a more flexible learning algorithm.

Claim 25 recites the apparatus of claim 24, wherein the given feature is the time of day, and the adjacent means is either within an hour before or within an hour after. As discussed above, Alexander and Hertz contain all limitations of claim 24, and Alexander further teaches his system is capable of tracking the time of day in which a viewer watches/does not watch a program. (Col. 29, Ln. 50-55). But, Alexander fails to specifically disclose whether the subset of the negative examples can have values of a given time that are either an hour before or an hour after. However, within the same field of endeavor, Hertz discloses a content recommender in which the system builds subsets based upon the *degree of correlation* between the learned user preferences and the programming content. (Col. 4, Ln. 18-31 & Col. 6, Ln. 3-13). Accordingly, the logic supporting the rejection of claim 24 can also be applied here because the “degree of correlation” could very well be a program within an hour before or an hour after. Thus, it would have been obvious to one ordinarily skilled in this art at the time of applicant’s invention to further modify the combined teaching of Alexander and Hertz to further include Alexander’s time feature and Hertz’s correlation teaching in order to provide the user with a more adaptable and flexible content recommender.

Claim 26 recites the apparatus of claim 24, wherein each respective subset of negative examples corresponds to a subset of positive examples, so that each is adjacent to the same respective value of the corresponding subset. The limitations set forth are obvious variants of claim 24’s limitations, and are analyzed and rejected accordingly.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Saitoh (US #5,444,499) discloses an apparatus for learning a user's history of control.
- b. Schaffer et al (US Pub# 220/0104087) disclose a method and apparatus for selective updating of a user profile.
- c. Rauch et al (EP # 682,452 A2) disclose a method and system for providing efficient selection of television programs.
- d. Vamparys (WO 01/1549 A1) discloses a method and apparatus for creating user recommendations.
- e. Akinyanmi et al (US Pub.# 2002/0046402) disclose a system, which delivers information to users from multiple sources.
- f. Boyer et al (WO 00/04708) disclose a television system with aided user program searching.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jade O. Laye whose telephone number is (703) 308-6107. The examiner can normally be reached on Mon. 7:30am-3pm, Tues.-Fri. 7:30-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner's Initials JL
December 20th, 2004.



JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2300